AMENDMENTS TO THE CLAIMS

1. (Original) A fluid ejection device for receiving a signal and ejecting fluid in response thereto, comprising:

an ink ejecting nozzle layer having a substrate with first and second surfaces joined along an edge;

an insulating feature located on the first surface adjacent the edge; and

a flexible lead that bends around the edge and lies flush against the insulating feature.

2. (Original) The fluid ejection device of claim 1, further comprising a primer layer of an insulating material, which lies between the substrate and the nozzle layer to define the insulating feature.

3. (Original) The fluid ejection device of claim 2, wherein:

the primer layer defines a firing chamber around a firing element; and the firing chamber is configured in fluidic communication with the nozzle layer.

4. (Original) The fluid ejection device of claim 1, further comprising a raised, encompassing hedgerow defining the insulating feature, the hedgerow having an exit wall, a rear wall, and two opposing sidewalls, the hedgerow surrounding a bondpad located adjacent to the insulating feature and coupled to a firing element.

5. (Original) The fluid ejection device of claim 1, wherein a portion of the flexible lead has a narrowed cross-section which defines a weakened area, the flexible lead bent at the weakened area such that another portion of the flexible lead lies flush against the insulating feature.

6. (Original) The fluid ejection device of claim 5, wherein the flexible lead has plural portions each defining a weakened area at which the flexible lead bends.

7. (Original) The fluid ejection device of claim 5, wherein the flexible lead has a rectangular cross-section with a pair of opposing first and second surfaces, the weakened area is formed by two opposing notched areas defined by the first and second surfaces and the first surface lies flush against the insulating feature.

8. (Original) The fluid ejection device of claim 5, wherein the flexible lead has a rectangular cross-section with a pair of opposing first and second surfaces, and a pair of opposing third and fourth surfaces, the weakened area is formed by two opposing notched areas defined by the third and fourth surfaces and the first surface lies flush against the insulating feature.

9. (Original) The fluid ejection device of claim 5, wherein the weakened area is located at a void in the flexible lead.

10. (Original) The fluid ejection device of claim 9, wherein the void extends partially through the flexible lead.

11. (Original) The fluid ejection device of claim 9, wherein the void extends completely through the flexible lead.

12. (Original) The fluid ejection device of claim 9, further comprising plural voids in the flexible lead at the weakened area.

13. (Original) The fluid ejection device of claim 1, further comprising a primer layer of an insulating material having a substantially constant thickness, and lying between the substrate and the nozzle layer, with the primer layer defining the insulating feature of the substantially constant thickness.

14. (Original) The fluid ejection device of claim 1, wherein the edge has a cross-section of a non-rectangular shape.

15. (Original) The fluid ejection device of claim 14, wherein the non-rectangular shape comprises a beveled surface joining together the first and second surfaces.

16. (Original) The fluid ejection device of claim 14, wherein the non-rectangular shape comprises surface defining a notched out section joining together the first and second surfaces.

17. (Original) The fluid ejection device of claim 14, wherein the non-rectangular shape comprises a stepped surface joining together the first and second surfaces.

18. (Original) The fluid ejection device of claim 1, wherein the insulating feature comprises a primer layer of an insulating material having plural perforations therethrough adjacent the edge.

19. (Original) The fluid ejection device of claim 18, wherein the plural perforations each comprise a rectangular shape in a grid-like arrangement.

20. (Original) The fluid ejection device of claim 1, further comprising:

a wall structure defining an open compartment that partially encloses a bondpad disposed on the substrate adjacent to the insulating feature; and

an encapsulant disposed in the open compartment so as to encapsulate the flexible lead therein.

21. (Original) The fluid ejection device of claim 20, wherein the encapsulant has a viscosity when in a liquid form that allows wicking of the liquid encapsulant under capillary forces into corners of the open compartment and into regions between the flexible lead, bondpad, and the insulating feature.

22. (Original) The fluid ejection device of claim 20, wherein the encapsulant has an exposed surface covering the open compartment, with the exposed surface defining a meniscus between the wall structure.

23. (Original) The fluid ejection device of claim 20, wherein the flexible lead has a diameter of a first dimension and the wall structure projects from the insulating feature by a second dimension greater than the first dimension.

24. (Original) The fluid ejection device of claim 20, wherein the nozzle layer defines a nozzle exit surface laying in a nozzle exit plane and the wall structure projects from the insulating feature and terminates substantially within the nozzle exit plane.

25. (Original) A fluid ejection device, comprising:

means for defining a nozzle;

means for supporting the means for defining;

means for ejecting fluid from the nozzle in response to a firing signal;

means for receiving the firing signal; and

means for insulating the means for receiving from the means for supporting, wherein the means for receiving lies flush against the means for insulating.

26. (Original) The fluid ejection device of claim 25, wherein the means for supporting comprises first and second surfaces joined along an edge, the means for insulating is located on the first surface along the edge and the means for receiving bends around the edge.

27. (Original) The fluid ejection device of claim 25, wherein the means for insulating projects above the first surface.

28. (Previously Presented) The fluid ejection device of claim 25, wherein the means for defining defines a firing chamber within which the means for ejecting is located, with the firing chamber being in fluidic communication with the nozzle.

29. (Original) The fluid ejection device of claim 25, wherein the means for insulating also insulates the means for defining from the means for supporting.

30. (Original) The fluid ejection device of claim 25, wherein the means for receiving further comprises means for bending the means for receiving at a selected location.

31. (Original) The fluid ejection device of claim 25, wherein the means for supporting comprises a clean cut edge along which the means for insulating is located and the fluid ejection device further comprises means for controlling cracking of the means for insulating adjacent the clean cut edge.

32. (Original) The fluid ejection device of claim 31, wherein the means for controlling cracking comprises the means for insulating defining plural perforations therethrough.

33. (Original) The fluid ejection device of claim 25, further comprising means for surrounding the means for receiving and means for encapsulating the means for receiving within the means for surrounding.

34. (Original) The fluid ejection device of claim 32, wherein the means for defining also defines a nozzle exit surface located substantially in a nozzle exit plane, the means for surrounding projects from the means for supporting and terminates substantially in the nozzle exit plane and the means for receiving projects from the means for insulating and terminates before intersecting the nozzle exit plane.

35. (Original) A method of insulating a flexible lead from a substrate in a fluid ejection device which ejects fluid from a nozzle in response to a signal received through the flexible lead, the method comprising:

providing the substrate having first and second surfaces joined along an edge;

coupling the flexible lead to a firing element associated with the nozzle and responsive to the firing signal;

insulating the flexible lead from the substrate via an insulating feature supported by the first surface adjacent to the edge; and

routing the flexible lead flush against the insulating feature.

36. (Original) The method of claim 35, further comprising bending the flexible lead around the edge to run substantially in parallel with the second surface.

37. (Original) The method of claim 35, further comprising weakening an area of the flexible lead and bending the flexible lead at the weakened area.

38. (Original) The method of claim 35, wherein the providing comprises providing the substrate wherein the first and second surfaces are not substantially orthogonal.

39. (Original) The method of claim 35, wherein the providing further comprises forming a clean cut edge adjacent the insulating feature, and controlling cracking of the insulating feature adjacent the clean cut edge.

40. (Original) The method of claim 35, further comprising surrounding the flexible lead with an open wall structure bounded by the insulating feature, and encapsulating the flexible lead within the open wall structure.

41. (Withdrawn) A fluid ejection device for receiving a signal and ejecting fluid in response thereto, comprising:

an ink ejecting nozzle layer disposed on a substrate and extending a first distance above the substrate, the nozzle layer positionable above a fluid-receiving medium at a second distance; and

a flexible lead configured to carry the signal, the lead attached to the substrate and extending a third distance above the substrate, wherein the third distance is less than 32 μm greater than the first distance.

42. (Withdrawn) The device of claim 41, wherein the third distance is less than 5 μm greater than the first distance.

43. (Withdrawn) The device of claim 41, wherein the third distance is less than or equal to the first distance.

44. (Withdrawn) The device of claim 41, further comprising a primer layer disposed between the substrate and the nozzle layer, wherein the nozzle layer has a first thickness and the primer layer has a second thickness less than the first thickness.

45. (Withdrawn) The device of claim 44, wherein the first thickness is less than 50 μm and the second thickness is greater than 2 μm.